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TITLE: THIN FILM-TYPE THERMAL HEAD
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ABSTRACT:

PURPOSE: To provide high temperature stability, and high temperature resistance at high specific resistance as well as enable mass production by constituting a thin film-type thermal head with titanium carbide (TiC), silicon (Si) and carbonized silicon (SiC) as a thin-film thermal resistor.

CONSTITUTION: A thin-film thermal resistor 2 of TiC 5, Si 7 and SiC 6 is formed on an electrically insulated substrate 1 using sputtering method, and an electrode 3 to energize said thin-film thermal resistor 2 is formed. After this, a pattern is formed by means of photolithography and on this pattern, a protection layer 4 consisting of an insulation, a semiconductor, etc. (for prevention of the oxidation of the thin-film thermal resistor 2 and contact abrasion when paper is printed) is formed. This thin-film thermal resistor contains TiC and SiC in extremely stable compound state and does not suffer greying loss easily (dependence upon the forming temperature is low). Further it is possible to form a pattern with silicon using wet etching method, and also expect the least growth of unstable factors such as TiO_x ($x \leq 2$) because of the use of materials containing no nitrogen and oxygen. Thus the titled device can be created with high controllability.

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